

BEYOND THE 4% RULE

The science of retirement portfolios
that last a lifetime

Abraham Okusanya

MSc, CFP, AFPS, Chartered MCSI

CHAPTER I

Skin in the game

An increasing body of research highlights the fundamental difference between retirement income planning and traditional financial planning in the accumulation stage. But I find the old fable of the chicken and the pig better illustrates this remarkable difference.

A Pig and a Chicken are walking down the road.

The Chicken says: *'Hey Pig, I was thinking we should open a restaurant!'*

Pig replies: *'Hmm, maybe, what would we call it?'*

The Chicken responds: *'How about 'ham-n-eggs?'*

The Pig thinks for a moment and says: *'No thanks. I'd be committed, but you'd only be involved.'*

The lesson is that in a breakfast of eggs and bacon, the pig has a lot more to lose than the chicken. Retirement is the stage when an individual's pension pot transitions from a chicken into a pig. It becomes a lot more than just a number on a statement. It's what they rely on to pay their day-to-day bills, fund their lifestyle and enjoy their newly found freedom. The retiree has more skin in the game, so to speak.

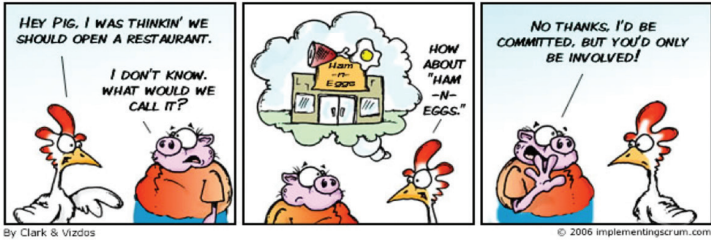


Fig. 2: The chicken and the pig

Sadly, when it comes to retirement income planning, a large part of the advice profession and the financial industry continue to think like chickens, when they should think more like pigs!

We all need to understand the risks that are peculiar to this crucial stage.

Planning your retirement income strategy is one of the hardest things you'll ever do. Most people will benefit immensely from working with a financial adviser who truly understands the complexities involved. But not every financial adviser is a retirement income specialist. An emerging body of research points to the fact that retirement income planning should be considered a distinct discipline, with its own theories and practices that are based on rigorous empirical evidence.

In the medical profession, general practitioners (GPs) treat most common and non-life-threatening conditions. They

play an invaluable role in caring for their patients. However, they're not allowed to cut people up. When it comes to dealing with issues relating to the intricate workings of specific organs or systems of the body, we call on specialists. After completing medical school, specialists complete additional training in a specific branch of medicine to become surgeons (of different kinds), paediatricians, obstetricians and other medical specialisms too numerous to name.

The point is that retirement income planning is a specialist branch of financial planning. And retirees should only seek to work with specialists in this area. Why? Because the problems you're trying to solve are different than during accumulation. More importantly, the consequences of misdiagnosis or mistreatment are infinitely greater. The risks, tools, theories and practices required for the job are therefore very different.

Key retirement income risks

The unique risks associated with retirement income planning sum up the distinction between the accumulation and retirement stages.

a) Diminished earning flexibility

Retirement happens at the tail end of your working life, long after earnings have peaked. Returning to work after retirement isn't a viable option for many. The practical implication is that we want to take less risk with our savings as we become more reliant on our financial assets.

b) Inflation risk

A major challenge is how to prevent inflation – the thief that keeps on taking – from depleting the buying power of your income over what may be a 30-year retirement, or possibly longer.

c) Decreasing cognitive abilities

As people get older, their ability to make a financial decision is impaired. It's estimated that financial capability declines at a rate of 1% to 2% per year from age 60¹.

¹ Finke M, Howe J and Huston S (2011) Old Age and the Decline in Financial Literacy, Social Science Research Network, Available at SSRN: <http://ssrn.com/abstract=1948627>

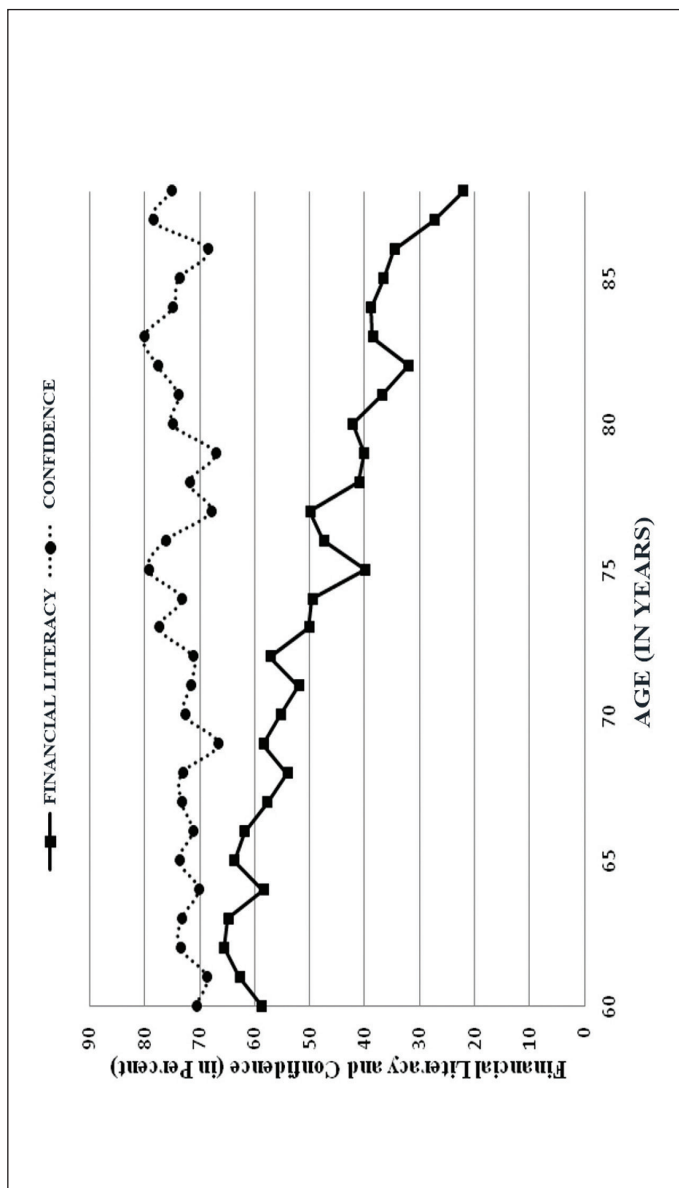


Fig. 3: Financial literacy score by age

The chart opposite shows the average self-assessed confidence with financial literacy and actual financial literacy by age from 60 to 89².

So, even though actual financial literacy declines with age, an individual's confidence in their own ability to make financial decisions tends to remain stable as they get older. The difference between the two is dubbed the overconfidence gap.

This makes it challenging for clients to understand the vagaries of managing a drawdown portfolio. It may even be challenging to give their adviser informed consent to manage it on their behalf.

d) Longevity risk and unknown time horizon

The fear of dying is right up there on the list of people's biggest fears. But the fear of public speaking is apparently even higher. Maybe I've got this all wrong but if that's true, then when the average person goes to a funeral, they'd rather be in the casket than do the eulogy. But I digress.

For retirees, the greatest fear shouldn't be of an untimely death, but of living too long! Indeed, research suggests that if there's anything retirees fear more than death, it's running out of money during their lifetime.

2 Cox, P., (2016) Helping consumers and providers manage defined contribution (DC) wealth in retirement

Retirement income planning is particularly challenging because we're planning for a finite, but precisely unknown retirement period. Without the proverbial crystal ball, it's tricky to estimate how long you're likely to live.

It's estimated that around 75% of people over age 65 live as a couple. The chance that at least one of a 65-year-old couple will live to age 100 is 24%.

So it's important to consider the survival probability for couples, not just for the individuals.

Given this long but precisely unknown time horizon, how do we make sure that a pension pot lasts a lifetime? It's a particular challenge when a retiree doesn't want to buy an annuity with all or most of their retirement savings pot.

e) Heightened sequence risk

Poor returns early in retirement can cause untold damage to your prospects of a decent income for life. Sequence risk is often confused with volatility, a traditional measure of investment risk. But it's a distinct and visible risk – particularly at the retirement income stage.

The best way to understand the impact of sequence risk on a retirement portfolio is to look at the impact of each year's return on the overall outcome for someone over a typical investment lifetime.

Suppose an individual spends 60 years invested in the capital markets. They pay into their portfolio for the first 30 years (accumulation) and they take money out for the last 30 years (decumulation).

Fig. 4 overleaf³ shows the impact of each year of return over the entire investment period of a typical individual's lifetime. The chart quantifies the impact of each year's return and shows how much the success or failure of the overall retirement journey depends on the returns obtained in any year.

The returns in the first decade of decumulation stage (years 31 to 40 on the chart) of retirement have a disproportionate impact on the overall retirement experience. So, the order of return is as important as the level of return.

If you get good returns in the first decade of retirement, you're unlikely to run out of money, as long as you use a sensible withdrawal rate. If you get poor or even mediocre returns in the first decade of retirement, then technically speaking, you're bugged!

It has the potential to decimate the portfolio beyond repair, even if good returns happen later in retirement.

3 Wade Pfau (2016), presentation slides at the FidelityQ's Science of Retirement Conference

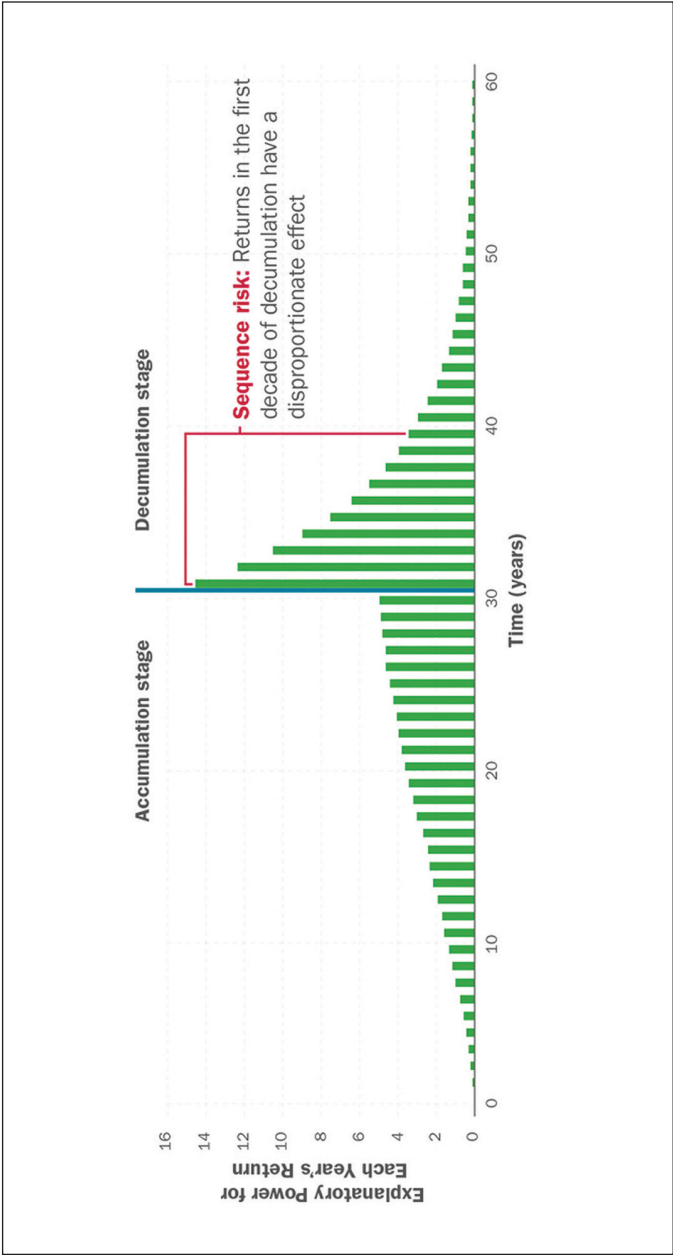


Fig. 4: Lifetime sequence of return risk

Sequence risk also exists during the accumulation stage, but it's amplified by withdrawals from a portfolio during the retirement stage.

We know that capital markets deliver good returns over the long term. But retirees taking income out of their portfolio don't have the luxury of waiting for the long term. They need income monthly or annually.

All these risks are uniquely associated with retirement income planning and we should approach them in a scientific way. It's all the more reason why retirees should strongly consider working with a financial adviser to help them.

And advice must be based on sound empirical evidence and robust, practical application as opposed to trial and error practices handed down from one adviser to another.

The yin and yang of retirement income philosophies

‘The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function.’

- F. Scott Fitzgerald

In Chinese philosophy, yin and yang illustrates how seemingly contrary forces may be complementary, interconnected and interdependent in the natural world. Apparently, this duality serves as the primary guidance for Chinese medicine and even martial arts.

In Western democracy, the roles of the government and opposition are well recognised. The opposition holds the government to account, and a weak opposition is generally considered bad for democracy.

It’s a fact of life that every profession (and society) has its own conflicting schools of thought. Often there are two or more opposing forces that actually complement each other and are necessary to maintain balance and order.

As an emerging field of study, retirement income is no different. Retirement Income Professor Wade Pfau and Jeremy

Cooper (2014)⁴ identified the two fundamental schools of thought in retirement income planning:

- safety-first
- probability-based

We can broadly classify all retirement income strategies, products and tools by using one of these two fundamentally different philosophies.

It's crucial for retirees and their advisers to understand these philosophies before they can decide the best way to meet their retirement income needs. Importantly, these different approaches embody the upsides and trade-offs involved in retirement income planning. If advisers don't fully understand these approaches, they can't communicate them effectively to clients and this could be detrimental to client outcomes.

- **The safety-first** school has its origins in the actuarial profession. It focuses on eliminating or mitigating the risk of an individual outliving their income. It asserts that retirement income planning should focus on individuals and not on historical data or group statistics. This philosophy distinguishes between essential

4 Pfau, Wade D. and Cooper, Jeremy, The Yin and Yang of Retirement Income Philosophies (November 10, 2014). Available at SSRN: <http://ssrn.com/abstract=2548114> or <http://dx.doi.org/10.2139/ssrn.2548114>

expenses to cover the cost of living and discretionary expenses for luxuries. It accepts some risks to the discretionary expenses, but the safety-first approach aims to take all risk to the essential income off the table completely.

- **The probability-based** school has its roots in the investment industry. It's about estimating the chances of running out of money in the face of market and longevity risks and planning accordingly. It's impossible to know in advance what investment returns, inflation and longevity are going to be. The probability school tests the chances of running out of money by using Monte Carlo models. The model runs thousands of possible future scenarios and estimates the probability of success or failure of a financial plan.

A retiree's retirement income strategy will be very different, depending on which approach they agree with their adviser. This is because the two schools of thought have very different answers to even the basic retirement income planning questions.